LOGARITHMIC LOOKUP TABLES

ABSTRACT

In one embodiment, the invention is directed toward techniques for generating results in a logarithmic domain. The techniques may exploit properties of a logarithmic function to reduce the memory requirements needed to implement lookup tables. For example, the techniques may utilize non-uniform sampling over a logarithmic or logarithmic-like function to reduce the number of entries needed for a given lookup table. In particular, the techniques may involve separating a number into an exponent component and a mantissa component. Each of these different components can then be converted from a first domain to a second domain using different lookup tables.